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Final Technical Report

**NASA/OAI Collaborative Aerospace
Internship and Fellowship Program**

NASA Cooperative Agreement

NCC3-348

May 16, 1994 - May 25, 1995

**Ohio Aerospace Institute
22800 Cedar Point Road
Brook Park, Ohio 44142**

August 1995

NASA/OAI Collaborative Aerospace Internship and Fellowship Program

NCC3-348

Summary

The NASA/OAI Collaborative Aerospace Internship and Fellowship Program is a collaborative undertaking by the Office of Educational Programs at the NASA Lewis Research Center and the Department of Workforce Enhancement at the Ohio Aerospace Institute. This program provides 12 or 14 week internships and 10 or 12 week fellowships for undergraduate and graduate students of science and engineering, and for secondary school teachers. Approximately 200 interns are selected to participate in this program and begin arriving the second week in May. Each intern is assigned a NASA mentor who facilitates a research assignment. An important aspect of the program is that it includes students with diverse social, cultural and economic backgrounds.

The purpose of this report is to document the program accomplishments for 1994.

August 25, 1995

NASA/OAI Collaborative Aerospace Internship and Fellowship Program

NCC3-348

Grant Close Out Report

The NASA/OAI Collaborative Aerospace Internship and Fellowship Program provides 12-14 week internships for students majoring in science or engineering. The internships provide students with introductory professional experiences to complement their academic programs. The interns are given assignments in research and development projects under the personal guidance of NASA professional staff members. In addition to the research assignment, the summer program includes a strong educational component which enhances the professional stature of the participants. The educational activities include a research symposium and a variety of workshops, lectures and short courses.

The program is explained through a chronological calendar.

- | | |
|----------------|--|
| Nov. , 1993 | Five thousand applications for the 1994 program were distributed nation-wide. |
| Jan. 31, 1994 | <u>Application Deadline</u> . Over 800 applications were received. All applications were reviewed to ensure that applicants were qualified and had submitted complete application packages. Information on the applicants was then entered into the database and the applications filed. |
| April 1, 1994 | NASA mentors selected 210 students from the pool of applicants. |
| April 18, 1994 | A <u>Mentor Workshop</u> was held. The workshop provided information regarding effective mentoring. Eighty (80) NASA mentors attended and participated in the workshop. The guest speaker was Dr. William Parker of Parker & Parker Associates. |
| May 3, 1994 | A <u>Mentor Orientation</u> was held. The orientation provided information to mentors regarding specifics of the intern program. |
| May 16, 1994 | The <u>First Student Orientation</u> for 1994 was held. Sixty-eight (68) students entered the program. The purpose of this and the three subsequent orientations is to acquaint the interns (and some mentors who could not attend the May 3 orientation) with some of the specifics of the program. Representatives of the Computer Services Division, Library Branch, and the Safety Assurance Office addressed the group. |
| May 19, 1994 | The <u>First Networking Activity</u> was held. This important activity gives the students an opportunity to meet each other and talk about their assignments, education program, etc. |
| May 27, 1994 | <u>Follow-up Sessions</u> were held with students who began their tenure on May 16. Students meet one-on-one with a member of the Intern Administration Team to discuss their assignment, their relationship with their mentor, the work environment, etc. These sessions are conducted to ensure that the student is satisfied with his/her research assignment. |
- Payday. Paychecks were distributed to all interns and high school teachers.

May 31, 1994	The <u>Second Student Orientation</u> was held. Sixty-five (65) students entered the program.
June 9, 1994	The <u>Second Networking Activity</u> was held. This important activity gives the students an opportunity to meet each other and talk about their assignments, education program, etc.
June 10, 1994	<u>Follow-up Sessions</u> were held for students who began their tenure on May 31. <ul style="list-style-type: none"> • <u>Payday</u>. Paychecks were distributed to all interns and high school teachers.
June 13, 1994	The <u>Third Student Orientation</u> was held. Fifty-two (52) students entered the program.
June 20, 1994	The <u>Fourth Student Orientation</u> was held. Nine (9) students entered the program.
June 22, 1994	<u>Tours</u> . New participants were invited to tour the NASA LeRC.
June 23, 1994	<u>Tours</u> . Past participants were invited to tour the BFGoodrich Research Center. <ul style="list-style-type: none"> • A <u>Short Course</u> was presented in the morning. Dr. John Lewandowski, a Professor at CWRU, gave a lecture entitled, "Advanced Materials for Automotive and Aerospace Application." • A <u>Short Course</u> was presented in the afternoon. Dr. Winston Soboyejo, a Professor at Ohio State U., gave a lecture entitled, "High Temperature Materials Design for Aerospace Structures".
June 24, 1994	<u>Follow-up Sessions</u> were held for students who began their tenure on June 13. <ul style="list-style-type: none"> • <u>Payday</u>. Paychecks were distributed to all interns and high school teachers.
June 29, 1994	The <u>Scholars' Workshop</u> . This workshop provides a forum for the scholars to interact with each other and to discuss various "scholar" issues.
July 1, 1994	<u>Follow-up Sessions</u> were held for students who began their tenure on June 20.
July 5, 1994	<u>Reception</u> . All interns, Mentors, Branch Chiefs, Division Chiefs, and Senior Management were invited to interact with one another on an informal basis to discuss education programs and assignments. Approximately three hundred (300) attended this activity which was held in the OAI Building.
July 6-7, 1994	<u>Presentation Workshop</u> . The workshop is designed to help the interns improve their presentation skills for giving a technical presentation. Dr. Theo Keith presented a three hour lecture.
July 8, 1994	<u>Payday</u> . Paychecks were distributed to all interns and high school teachers.
July 12, 1994	<u>Annual Student/Mentor Picnic</u> . For the first time in several years, a picnic was held which included summer faculty and the summer interns. Also, several other groups joined this very successful event. A total of 567 attended.
July 13, 1994	<u>Professional Development Workshop</u> . Dr. Helen M. Kollus presented a workshop entitled, "What Makes a Good Team?" Students who participated received valuable information regarding the characteristics of a good team member and communication skills.

- July 18, 1994 College Fair. Provides a forum for students and parents to meet with college representatives to discuss education programs (both undergraduate and graduate), admissions and financial aid. Fifty-nine (59) colleges were present, and over 200 students and their parents attended.
- July 22, 1994 Payday. Paychecks were distributed to all interns and high school teachers.
- July 25, 1994 An orientation was held for 16 teachers who entered the program for two weeks.
- Aug. 2-3, 1994 Research Symposium. Provides students an opportunity to for students to give a technical presentation in front of their peers, mentors, supervisors, etc. Students are evaluated by the referees on their presentation and are given written feedback. The symposium simulated a technical conference with participants giving 15 minute presentations in scheduled sessions. 40 undergraduate and 6 graduate students participated. The summaries of these presentations were published in a book entitled Apogee.
- Aug. 5, 1994 Payday. Paychecks were distributed to all interns and high school teachers.
- Aug. 19, 1994 Payday. Paychecks were distributed to all interns and high school teachers.
- Sep. 2, 1994 Payday. Paychecks were distributed to all interns and high school teachers.
- Sep. 16, 1994 Payday. Paychecks were distributed to all interns and high school teachers.
- Sep. 20-21, 1994 Retreat. At the end of the program, a retreat is held to review and evaluate the program in general, and specifically discuss each activity. Administrative procedures are comprehensively reviewed to ensure that the program is running as smooth as possible. Each activity is evaluated and recommendations are made so that next year's activity will be even more successful.
- Sep. 30, 1994 Payday. Paychecks were distributed to all interns and high school teachers.

There is a great deal of planning, organizing, communicating, coordinating and evaluating that goes on behind the scenes prior to, during, and after the program. Beginning in January, the program team meets regularly to ensure that the program is progressing on schedule. All of these tasks require a high level of energy.

In addition, there are literally hundreds of phone calls from college representatives, students, and parents inquiring about the NASA/OAI Intern Program. Students want to know the eligibility requirements, how to apply, how they can get an application, and if they were not selected, how they can improve their chances of being selected the following year, etc.

Management and administration of the program is performed in a team-like manner. The following provides the management structure of the program.

OAI	NASA
Program Director: Theo G. Keith, Ph.D.	Program Director: Jo Ann Charleston
Program Manager: Sylvia Thompson	Program Manager: Jo Ann Charleston (1993, 1994)
Ashanti Trent (1995)	Sylvia Merritt (1995)

Program Manager (NASA Interface): Rita Clement

Application

NASA/OAI Collaborative Aerospace Internship and Fellowship Program

APPLICATION FOR 1994 SUMMER INTERNSHIP

Please type or print in black ink only

Name: _____ Social Security Number: _____

Date of Birth: _____ Place of Birth: _____

Home Address: _____ ☐ Work Address ☐ School Address

Telephone: () _____ Telephone: () _____

Please indicate address you would like correspondence mailed to: (Give dates only if both are checked.)

☐ Home From: _____ To: _____ ☐ School From: _____ To: _____

Current School:

☐ High School ☐ College ☐ University Name: _____ City, State: _____ Date Began: _____ Planned Graduation Date: _____

If you have applied to attend an undergraduate or graduate college/university for the fall 1994, please provide the following:

Planned College or University: _____ Field of Study/Targeted Degree: _____ Status of Application:

☐ Pending

☐ Accepted

Check here if you will be a 1994 high school graduate ☐ (12) Academic Level as of Fall 1994: (Check one)

Cumulative Grade Point Average: _____ out of 4.0

Credit hours earned as June 1994:

_____ out of _____

Academic Major: _____

- ☐ (13) College Freshman
- ☐ (14) College Sophomore
- ☐ (15) College Junior
- ☐ (16) College Senior
- ☐ (17) Master Student
- ☐ (18) PhD Student

For placement purposes, please indicate the field of science or engineering in which you would like to work. Dual majors must indicate a first and second choice, in order of preference.

- | | |
|--|--|
| <input type="checkbox"/> (1) Aero/Astro Engineering | <input type="checkbox"/> (10) Materials/Structures |
| <input type="checkbox"/> (2) Architecture | <input type="checkbox"/> (11) Math |
| <input type="checkbox"/> (3) Chemical Engineering | <input type="checkbox"/> (12) Mechanical Engineering |
| <input type="checkbox"/> (4) Chemistry | <input type="checkbox"/> (13) Nuclear Engineering |
| <input type="checkbox"/> (5) Civil Engineering | <input type="checkbox"/> (14) Optics |
| <input type="checkbox"/> (6) Computer Science/Engineering | <input type="checkbox"/> (15) Physics |
| <input type="checkbox"/> (7) Electrical Engineering | <input type="checkbox"/> (16) Polymers |
| <input type="checkbox"/> (8) Environmental Science/Engineering | <input type="checkbox"/> (17) Systems Engineering |
| <input type="checkbox"/> (9) Industrial Engineering | <input type="checkbox"/> (18) Other: _____ |

OFFICE USE ONLY

Date Received: _____ 13 14 15 16 17 18 Bi-Weekly Salary: \$ _____

Date Processed: _____ 12 14 PR Requirement: \$ _____

Background Information

DEC 1 1999

Work Experience: _____

Special Training or Skills: _____

Honors or Awards: _____

Hobbies and Interests: _____

Internship Research Interests: _____

Additional Information: _____



Fill in your name on the endorsement form, separate it from the application form and give it, along with the enclosed envelope, to the faculty member who will provide a recommendation based on your academic ability and interpersonal skills. Because the endorsement letter must be returned with the application, set a predetermined date with the faculty member when you can pick up the letter.



FACULTY ENDORSEMENT

Student: _____

The above named student is applying for a summer internship at the NASA Lewis Research Center. The internship, if awarded, will provide an opportunity for the student to work with professional staff in an environment not unlike an academic research setting. Your endorsement of the student's participation is requested in consideration of his or her potential to both contribute to and benefit from the experience. You may use the space below or use a separate letter. Please respond by January 31, 1994.

This form should be returned by student with application in the enclosed envelope.

I ☐ recommend, I ☐ do not recommend, the above student for an internship at the NASA Lewis Research Center.

Signature: _____ Date: _____

Title: _____ Telephone: _____

Address: _____

*** Must be a faculty member in applicant's department or area of expertise***



NASA/OAI Collaborative Aerospace Internship and Fellowship Program

BACKGROUND SURVEY

(Completion of this form is optional)

Name: _____ School: _____

☐ Student ☐ Teacher

How did you learn of the internship and fellowship program?

- ☐ (a) Previous Participation
- ☐ (b) Acquaintance who was an intern and/or a teacher
- ☐ (c) Inquiry to NASA about summer employment
- ☐ (d) Group visit to the Center
- ☐ (e) Relative who works for NASA or a NASA contractor
- ☐ (f) Acquaintance who works for NASA or NASA contractor
- ☐ (g) Participation in another NASA Program
- ☐ (h) Faculty member or school official
- ☐ (i) Other: _____

Please review the categories below and categorize yourself by checking the appropriate items.

- ☐ (1) American Indian or Alaskan Native
- ☐ (2) Asian or Pacific Islander
- ☐ (3) African-American
- ☐ (4) White
- ☐ (5) Hispanic
- ☐ (6) Other: _____

- ☐ (M) Male
- ☐ (F) Female

Disabled: ☐ Yes ☐ No

If Yes, please indicate disability: _____

The information solicited on this form will not be available to those responsible for rating applications but will be used by NASA primarily to determine the extent to which various populations are represented in the applicant pool.

Narrative Statement

In the space below, write a narrative statement that indicates your internship research interests, and how you and NASA will benefit if you are selected.

UEG

Period of Tenure Requested: ☐ 12 Weeks ☐ 14 Weeks

From: (Monday) _____ (Date) To: (Friday) _____ (Date)

Did you apply for this program in 1993? ☐ Yes ☐ No

Have you previously participated in this program? ☐ Yes ☐ No

Check any of the following NASA or Federal programs you have participated in:

- | | |
|---|---|
| <input type="checkbox"/> (1) NASA SHARP Program | <input type="checkbox"/> (7) Ohio Space Scientists of Tomorrow Program |
| <input type="checkbox"/> (2) NASA Lewis Explorer's Post | <input type="checkbox"/> (8) Space Science Student Involvement Program |
| <input type="checkbox"/> (3) NASA Lewis Shadowing Program | <input type="checkbox"/> (9) OPM National Science Scholar |
| <input type="checkbox"/> (4) NASA Lewis SYETP Program | <input type="checkbox"/> (10) The N.A.S.A. Project at C.C.C. |
| <input type="checkbox"/> (5) NASA Lewis/East Tech Partnership Program | <input type="checkbox"/> (11) Undergraduate Student Researchers Program |
| <input type="checkbox"/> (6) KEYS Program | <input type="checkbox"/> (12) Other: |

Is any member of your family employed at NASA Lewis Research Center? ☐ Yes ☐ No

If Yes, identify the employee and the relationship:

References other than the faculty member providing written endorsement (name, title, telephone):

1. _____
2. _____

Please indicate whether a short-term housing list is desired. ☐ Yes ☐ No

Do we have your permission to include your name, address and phone in a listing to send to students interested in sharing housing? ☐ Yes ☐ No

Transcripts

College-bound high school students: attach a transcript of all high school courses completed and a list of courses currently being taken.

Undergraduate students: attach a transcript of all college courses completed and a list of courses currently being taken.

Graduate students: attach a complete undergraduate transcript, a transcript of all graduate courses completed, and a list of courses currently being taken.

Copies of unofficial transcripts already in your possession are acceptable. It is not necessary to have your school send official transcripts.

Applicants will be notified of the results by mail by April 11, 1994.

I certify that the information provided herein is complete and correct. I am a United States citizen.

Signature: _____ Date: _____

Send the completed application to:

NASA/OAI Internship/Fellowship Program
Ohio Aerospace Institute
22800 Cedar Point Road
Brook Park, Ohio 44142
Attn: Sylvia Thompson

List of Interns

NASA/OAI Internship & Fellowship Program

1994 Participants

STUDENT	MAJOR	SCHOOL	ACADEMIC LEVEL
ANDERSON, BENJAMIN	MECH ENG	U CINCINNATI	COLLEGE SOPHOMORE
ANDERSON, JAMAHL	MECH ENG	OSU	MASTER CANDIDATE
ARTHURS, BARRINGTON	CHEMISTRY	OAKWOOD C	COLLEGE SOPHOMORE
BAER, TROY	AERO/ASTRO ENG	OSU	COLLEGE SENIOR
BAKER, ERIC	MATLS/STRUCTURES	CSU	MASTER CANDIDATE
BARANWAL, RITA	MATLS/STRUCTURES	U MICHIGAN	MASTER CANDIDATE
BODNER, JEFFREY	AERO/ASTRO ENG	CWRU	COLLEGE SENIOR
BOSAU, EVELYN	OTHER	MAPLE ES	HS TEACHER
BROAD, STEVEN	PHYSICS	U EVANSVILLE	COLLEGE JUNIOR
BROWN, BETHANY	CHEMISTRY	GEORGIA TECH	COLLEGE SENIOR
BROWN, TANESHA	MATH	SPELMAN C	COLLEGE SOPHOMORE
BUBNICK, MARK	CHEM ENG	CSU	COLLEGE SENIOR
BUCHOLZ, JUSTINE	CHEMISTRY	MANCHESTER C	MASTER CANDIDATE
BURKS, JR., ROBERT	COMP SCI/ENG	BENEDICTINE HS	COLLEGE FRESHMAN
CANAGARATNA, GNANULAN	AERO/ASTRO ENG	OHIO NORTHERN U	COLLEGE SENIOR
CARIL, SARAH	MECH ENG	CWRU	COLLEGE SOPHOMORE
CARPENTER, KEITH	COMP SCI/ENG	U AKRON	COLLEGE SOPHOMORE
CASTRO, PETER	AERO/ASTRO ENG	CWRU	COLLEGE JUNIOR
CHO, SHEILA	CHEM ENG	U CALIFORNIA BERK	COLLEGE JUNIOR
CHRISZT, JENNIFER	MATLS/STRUCTURES	CSU	COLLEGE SENIOR
CLARK, WILLIAM	ELEC ENG	TENNESSEE STATE U	COLLEGE SENIOR
CLAYTON, TARA	ELEC ENG	TENNESSEE STATE U	COLLEGE JUNIOR
COCKRELL, KEITH	CHEMISTRY	EAST TECH HS	COLLEGE FRESHMAN
COLE, TREVOR	MECH ENG	NORWICH U	COLLEGE SENIOR
COLLINS, NIKITA	CHEM ENG	GEORGIA TECH	COLLEGE SENIOR
COLLINS, OBJARAHNAWEN	SYSTEMS ENG	HAMPTON U	COLLEGE JUNIOR
COMISKEY, MICHELE	MATLS/STRUCTURES	U AKRON	COLLEGE FRESHMAN
CONLEY JR., MYLES	COMP SCI/ENG	CSU	COLLEGE JUNIOR
CONLEY JR., MYLES	COMP SCI/ENG	CSU	COLLEGE SOPHOMORE
CONLEY JR., MYLES	COMP SCI/ENG	HAMPTON U	COLLEGE SOPHOMORE
CORNELIUS, DAVID	AERO/ASTRO ENG	STANFORD U	PHD CANDIDATE
COWAN, ELIZABETH	AERO/ASTRO ENG	IOWA STATE U	COLLEGE SENIOR
CRANE, ELIZABETH	POLYMERS	JOHN CARROLL U	COLLEGE SENIOR
CREASON, ANGELA	ELEC ENG	OHIO NORTHERN U	COLLEGE JUNIOR
CROUCH, DENNIS	MECH ENG	PRINCETON U	COLLEGE SOPHOMORE
CRUSE, KHALI	AERO/ASTRO ENG	PURDUE U	COLLEGE JUNIOR
DAVIDSON, MICHELLE	PHYSICS	OSU	PHD CANDIDATE
DEARHOUSE, PAUL	MATLS/STRUCTURES	MICHIGAN STATE U	COLLEGE SENIOR
DEFRANCO, JEFFREY	ELEC ENG	CSU	COLLEGE SOPHOMORE
DEGENNARO, ALFRED	OTHER	CLEVELAND HEIGHTS HS	HS TEACHER
DICARLO, DANIEL	ELEC ENG	CWRU	COLLEGE FRESHMAN
DICARLO, JEFFREY	ELEC ENG	CWRU	MASTER CANDIDATE
DOMONKOS, MATTHEW	AERO/ASTRO ENG	U NEW MEXICO	MASTER CANDIDATE
DONALD, BYRON	COMP SCI/ENG	MOREHOUSE C	COLLEGE JUNIOR
DOWNING, KEITH	MECH ENG	ILLINOIS IT	MASTER CANDIDATE
DROBOTIJ, ERIN	CHEM ENG	WESTERN RESERVE ACAD	COLLEGE FRESHMAN
EASTON, JOHN	AERO/ASTRO ENG	CWRU	COLLEGE SENIOR
EL-AMIN, AALIYAH	MATH	SPELMAN C	COLLEGE SENIOR
ELLIOTT-LEWIS, DANE	AERO/ASTRO ENG	GEORGIA TECH	COLLEGE SENIOR
EMERY, QUENTIN	MECH ENG	SDSM&T	COLLEGE SOPHOMORE
ENNETT, ALESSANDRA	CHEM ENG	GEORGIA TECH	COLLEGE SENIOR
ERAUSQUIN, RICHARD	AERO/ASTRO ENG	PURDUE U	COLLEGE SENIOR

STUDENT	MAJOR	SCHOOL	ACADEMIC LEVEL
FERRARO, MENA	AERO/ASTRO ENG	ILLINOIS IT	COLLEGE SENIOR
FLANNERY, JUDE	ELEC ENG	COLUMBIA U	COLLEGE JUNIOR
FOSTER, JOHN	PHYSICS	U MICHIGAN	PHD CANDIDATE
GAINES, VATANNA	AERO/ASTRO ENG	ILLINOIS IT	COLLEGE JUNIOR
GALAJDA, TIMOTHY	ELEC ENG	U AKRON	COLLEGE JUNIOR
GARCIA, DAVID	MECH ENG	CORNELL U	COLLEGE JUNIOR
GILMORE, RICHARD	CHEM ENG	CARNEGIE MELLON U	COLLEGE SENIOR
GRAHAM, MEREDITH	OPTICS	ROCHESTER IT	COLLEGE JUNIOR
GRAY, ELIZABETH	COMP SCI/ENG	CSU	MASTER CANDIDATE
GREEN, ISAAC	COMP SCI/ENG	U FLORIDA	COLLEGE SENIOR
HAVELKA, PAMELA	CHEMISTRY	ST NORBERT C	COLLEGE JUNIOR
HENDERSON, TODD	AERO/ASTRO ENG	U ILLINOIS	PHD CANDIDATE
HESHMAT, CRYSTAL	MECH ENG	SUNY BINGHAMTON	COLLEGE SENIOR
HICKMAN, ALEXANDER	MECH ENG	MOREHOUSE C	COLLEGE SOPHOMORE
HICKMAN, ANDRE	AERO/ASTRO ENG	MOREHOUSE C	COLLEGE SOPHOMORE
HIGGS, FRED	MECH ENG	TENNESSEE STATE U	COLLEGE SENIOR
HIRANI, DEENAR	MECH ENG	ILLINOIS IT	MASTER CANDIDATE
HODANBOSI, CAROL	OTHER	BARBERTON HS	HS TEACHER
HOVAN, SCOT	MECH ENG	U DAYTON	COLLEGE SENIOR
HULL-HOLLENBAUGH, DIANA	CHEMISTRY	U AKRON	COLLEGE SENIOR
HULL-HOLLENBAUGH, DIANA	POLYMERS	U AKRON	MASTER CANDIDATE
HUNT, JASON	MECH ENG	CWRU	COLLEGE JUNIOR
HURST, JOSEPH	SYSTEMS ENG	U AKRON	COLLEGE SENIOR
JACOBSON, DAVID	MECH ENG	OHIO STATE U	COLLEGE JUNIOR
JAIN, SUDHEER	CHEMISTRY	CWRU	COLLEGE JUNIOR
JANSEN, MARK	MECH ENG	CWRU	COLLEGE SENIOR
JEFFERSON, GAIL	MATH	SPELMAN C	COLLEGE JUNIOR
JEREMIAH, WILLIAM	OTHER	BEREA HS	HS TEACHER
JOHNSON, DEREK	MATH	MOREHOUSE C	COLLEGE SOPHOMORE
JOHNSON, DWAIN	MECH ENG	OAKWOOD C	COLLEGE SOPHOMORE
JONAS, THOMAS	COMP SCI/ENG	OSU	COLLEGE SOPHOMORE
KADLOWEC, JENNIFER	MECH ENG	U MICHIGAN	MASTER CANDIDATE
KAJFASZ, TROY	ENVIRON SCI/ENG	U FINDLAY	COLLEGE JUNIOR
KARLA, ELIZABETH	MECH ENG	U DAYTON	COLLEGE JUNIOR
KEELS, WAYNE	COMP SCI/ENG	SHAW U	COLLEGE SENIOR
KELLEY, SANDRA	CHEMISTRY	CSU	COLLEGE SOPHOMORE
KELLY, ANN	OTHER	CSU	COLLEGE SOPHOMORE
KELLY, ANN	POLYMERS	CSU	COLLEGE SOPHOMORE
KING, JENNIFER	COMP SCI/ENG	BOWLING GREEN U	COLLEGE SENIOR
KNIGHT, DONALD	OTHER	ST IGNATIUS HS	HS TEACHER
KNIGHT, JASON	MATH	ST IGNATIUS HS	COLLEGE FRESHMAN
KONCHAR, NORA	MECH ENG	CSU	COLLEGE SENIOR
KRISKO, RONALD	COMP SCI/ENG	CLARKSON U	COLLEGE SENIOR
LANNING, THOMAS	OTHER	OLMSTED FALLS HS	HS TEACHER
LARSEN, LANCE	MECH ENG	ILLINOIS IT	COLLEGE SENIOR
LASKOWSKI, JULIA	OTHER	PARKS C	COLLEGE SENIOR
LEE, EUGENE	MECH ENG	U CALIFORNIA BERK	COLLEGE SENIOR
LIAO, WILSON	CHEMISTRY	STRONGSVILLE HS	COLLEGE FRESHMAN
LIN, STEVEN	ELEC ENG	PURDUE U	COLLEGE SENIOR
LOKENAUTH, MEGNAUTH	CHEM ENG	MOREHOUSE C	COLLEGE JUNIOR
LOWE, KIMBERLY	AERO/ASTRO ENG	U KANSAS	COLLEGE SENIOR
MAGYAR, TOM	AERO/ASTRO ENG	KENT STATE U	COLLEGE SENIOR
MALAVE-SANABRIA, TANIA	CHEMISTRY	U PR HUMACAO	COLLEGE JUNIOR
MALLORY, DAMON	MECH ENG	CSU	COLLEGE FRESHMAN
MANSELL, JUSTIN	ELEC ENG	CWRU	COLLEGE SENIOR
MATTHEWS, ANTHONY	COMP SCI/ENG	LEHIGH U	MASTER CANDIDATE

STUDENT	MAJOR	SCHOOL	ACADEMIC LEVEL
MATYI, ALAN	OTHER	HEIDELBERG C	MASTER CANDIDATE
MCCOLLUM, TIMOTHY	PHYSICS	CSU	PHD CANDIDATE
MCGOVERN, BRAD	OTHER	ST IGNATIUS HS	HS TEACHER
MENDOZA, AUDREY	INDUSTRIAL ENG	U MICHIGAN	COLLEGE SOPHOMORE
MERRILL, CHARLES	ENVIRON SCI/ENG	SDSM&T	COLLEGE SOPHOMORE
MERSFELDER, DAVID	OTHER	ROCHESTER IT	COLLEGE SENIOR
METCALF, HEATHER	CHEMISTRY	NOTRE DAME C OF OHIO	COLLEGE JUNIOR
MEYER, KATHERINE	ENVIRON SCI/ENG	NORTHWESTERN U	COLLEGE SOPHOMORE
MEYER, SCOTT	ENVIRON SCI/ENG	BOWLING GREEN U	COLLEGE JUNIOR
MILLER, COREEN	AERO/ASTRO ENG	RPI	MASTER CANDIDATE
MITRO, ALISHA	OTHER	PURDUE U	MASTER CANDIDATE
MOLLER, MARCIE	POLYMERS	MANCHESTER C	COLLEGE SENIOR
MOONEY, JAN	AERO/ASTRO ENG	NOTRE DAME C	COLLEGE SENIOR
MOORE, DEIMETRA	ELEC ENG	TENNESSEE STATE U	COLLEGE SENIOR
MOORE, KENNETH	AERO/ASTRO ENG	U CINCINNATI	PHD CANDIDATE
MUNOZ, CYNTHIA	MECH ENG	RPI	COLLEGE SENIOR
MYRICK, WILBUR	ELEC ENG	PURDUE U	MASTER CANDIDATE
NAGY, CHRISTINE	MATH	TEXAS TECH U	MASTER CANDIDATE
NAVARRO, LUIS	MECH ENG	CAL STATE FULLERTON	COLLEGE SOPHOMORE
NEGA, DONALD	MECH ENG	TEXAS U-PAN AM	COLLEGE SENIOR
NGUYEN, QUYNH GIAO	MATLS/STRUCTURES	NOTRE DAME C	COLLEGE JUNIOR
OCKUNZZI, KELLY	COMP SCI/ENG	CWRU	MASTER CANDIDATE
ODEN, KATESSHA	ELEC ENG	TENNESSEE STATE U	COLLEGE SENIOR
OLMSTEAD, FORREST	MATLS/STRUCTURES	CWRU	COLLEGE SENIOR
ORAVECZ, LISA	PHYSICS	MICHIGAN STATE U	MASTER CANDIDATE
ORTIZ, RONNIE	POLYMERS	CWRU	COLLEGE JUNIOR
PADULA II, SANTO	MATLS/STRUCTURES	MICHIGAN TECH U	COLLEGE SENIOR
PAGE, SEAN	AERO/ASTRO ENG	SYRACUSE U	COLLEGE SOPHOMORE
PATTERSON, DEMETRIUS	COMP SCI/ENG	MOREHOUSE C	COLLEGE JUNIOR
PEELE, CORI	AERO/ASTRO ENG	MIT	COLLEGE SOPHOMORE
PETERSON, PHYLLIS	OTHER	A B HART JS	HS TEACHER
PIASECKI, JR., GERALD	MECH ENG	U DAYTON	MASTER CANDIDATE
PIETROMICA, ANTHONY	MATLS/STRUCTURES	U MICHIGAN	COLLEGE SENIOR
PLANTNER, ANITA	MECH ENG	CWRU	COLLEGE SENIOR
PODOJIL, GREGG	PHYSICS	U VIRGINIA	MASTER CANDIDATE
POLJAK, PAMELA	ELEC ENG	CSU	COLLEGE SENIOR
POVINELLI, MICHELLE	PHYSICS	U CHICAGO	COLLEGE SOPHOMORE
PRESTON, MARCUS	CIVIL ENG	OSU	COLLEGE SENIOR
PRESTON, NISHELL	OTHER	KENT STATE U	COLLEGE SENIOR
RAMBO, DOROTHY	OTHER	EAST TECH HS	HS TEACHER
RAMJIT, KRISHNA	MECH ENG	EAST TECH HS	COLLEGE FRESHMAN
REGISTER, BRIAN	OTHER	EAST TECH HS	HS TEACHER
REYES, DELFIN	ELEC ENG	RPI	MASTER CANDIDATE
RICE, BRIAN	MECH ENG	OSU	COLLEGE JUNIOR
RICE, TIFFANY	ELEC ENG	TENNESSEE STATE U	COLLEGE JUNIOR
RIVERA JR., ANGEL	MECH ENG	U TEXAS	COLLEGE JUNIOR
RYAN, STEPHEN	COMP SCI/ENG	KENT STATE U	MASTER CANDIDATE
SABATAITIS, JULIE	ELEC ENG	CWRU	COLLEGE SOPHOMORE
SALINAS, MAURICIO	MECH ENG	U TEXAS	COLLEGE SENIOR
SALVEKAR, ATUL	COMP SCI/ENG	CA INST OF TECH	COLLEGE JUNIOR
SANCHEZ, VIVIANNETTE	CHEM ENG	PURDUE U	COLLEGE SENIOR
SATOSKAR, ROHIT	MATLS/STRUCTURES	CORNELL U	COLLEGE JUNIOR
SEPPELT, JEROME	OTHER	EAST TECH HS	HS TEACHER
SIDDIQI, YUMNA	ARCHITECTURE	OSU	COLLEGE SENIOR
SIEBERT, MARK	MECH ENG	U TOLEDO	PHD CANDIDATE
SIMONS, TODD	MECH ENG	U FLORIDA	MASTER CANDIDATE

STUDENT	MAJOR	SCHOOL	ACADEMIC LEVEL
SMITH, IRA	MECH ENG	PURDUE U	COLLEGE SENIOR
SMITH-MILLS, ARKIA	CHEMISTRY	NOTRE DAME C	COLLEGE SENIOR
SNIEZEK, AUDREY	COMP SCI/ENG	CWRU	COLLEGE SENIOR
SNOEREN, ALEX	COMP SCI/ENG	GEORGIA TECH	COLLEGE JUNIOR
SOKOL, DANIEL	AERO/ASTRO ENG	CWRU	MASTER CANDIDATE
SOKOLOWSKI, TODD	MECH ENG	OSU	COLLEGE SENIOR
SPEER, MATTHEW	ENVIRON SCI/ENG	BOSTON U	MASTER CANDIDATE
SPRAFKA, BRIAN	AERO/ASTRO ENG	CWRU	COLLEGE SENIOR
STINNETTE, HUGH	MECH ENG	U MINNESOTA	COLLEGE SENIOR
STORM, ROGER	OTHER	FAIRVIEW HS	HS TEACHER
STUDENSKI, BEN	ELEC ENG	MICHIGAN TECH U	COLLEGE SOPHOMORE
STULTZ, KEVIN	COMP SCI/ENG	U ALABAMA	MASTER CANDIDATE
SUAREZ, IDITH	MECH ENG	U PUERTO RICO	COLLEGE JUNIOR
SWANN, JONQUIL	COMP SCI/ENG	RPI	MASTER CANDIDATE
TACINA, KATHLEEN	AERO/ASTRO ENG	OSU	COLLEGE SENIOR
TALARICO, JOSEPH	COMP SCI/ENG	CWRU	COLLEGE SOPHOMORE
TATTAR, MARC	AERO/ASTRO ENG	CWRU	MASTER CANDIDATE
TIDMORE, NORMAN	OTHER	OSU	COLLEGE JUNIOR
TIMBERLAKE, JUJUAN	MECH ENG	MOREHOUSE C	COLLEGE JUNIOR
TRINH, TAN	AERO/ASTRO ENG	MIT	COLLEGE JUNIOR
TRINIDAD, HUMBERTO	AERO/ASTRO ENG	WOOSTER	COLLEGE SOPHOMORE
TURK, MARY	POLYMERS	JOHN CARROLL U	COLLEGE SENIOR
VALENCIA, LUIS	ELEC ENG	U PUERTO RICO	COLLEGE JUNIOR
VAN STEENBERG, MICHELLE	MATH	U TOLEDO	MASTER CANDIDATE
VEAUTHIER, JACQUELINE	CHEMISTRY	CWRU	MASTER CANDIDATE
VOLTZ, GERALD	OTHER	EAST TECH HS	HS TEACHER
WAGNER, KEELY	ELEC ENG	U WISCONSIN-MADISON	COLLEGE SENIOR
WATERS, JOSEPH	POLYMERS	JOHN CARROLL U	COLLEGE SENIOR
WEBB, SCOTT	AERO/ASTRO ENG	PURDUE U	COLLEGE JUNIOR
WEINGARTZ, WARREN	MECH ENG	BROOKSIDE HS	COLLEGE FRESHMAN
WEINSTEIN, SAMUEL	ELEC ENG	OSU	COLLEGE JUNIOR
WHITLOW, DARRYL	OTHER	U CALIFORNIA-DAVIS	PHD CANDIDATE
WILLARD, BENJAMIN	AERO/ASTRO ENG	LORAIN CC	COLLEGE JUNIOR
WILLIAMS, LESLEY	AERO/ASTRO ENG	SPELMAN C	COLLEGE SOPHOMORE
WILLIAMS, TROY	PHYSICS	SOUTHERN U	COLLEGE JUNIOR

Offer and Confirmation Letter

NASA/OAI

Collaborative Aerospace Internship and Fellowship Program

March 22, 1994

Elizabeth Karla
1215 Alberta Street
Dayton, Ohio 45409

Dear Elizabeth:

It is a pleasure to offer you an internship for the summer of 1994 at the NASA Lewis Research Center in the NASA/OAI Collaborative Aerospace Internship and Fellowship Program. This internship is intended to provide you with professional experience to complement your academic field of study at the level you have reached.

The enclosed assignment sheet indicates the organization that will host your internship and the Lewis employee who will serve as your mentor. The activities/responsibilities planned for you are also described. Your mentor will provide you with guidance and assistance throughout the internship. The duration of tenure will be 14 weeks and your starting date is planned for Monday, May 16, 1994.

Your salary for the full internship period will be \$4480. This amount will be paid by the Ohio Aerospace Institute in equal biweekly installments of \$640 beginning two weeks after you start your tenure.

Because of the tight schedule and intense competition for internships, we must have a response from you within five days from the date of this letter if you wish to participate. If you fail to respond by that time, we will assume you are unavailable and this offer will be withdrawn. Please notify us by telephone, (216) 962-3032 or (216) 433-5104, of your acceptance of this offer, and specifically confirm your dates of participation. Local housing information is available to you upon request.

Please do not hesitate to contact me at (216) 962-3030, Sylvia Thompson at (216) 962-3032 or Rita Clement at (216) 433-5104 if you have any questions about the program.

If you require more information about your responsibilities as an intern, please contact your mentor at the number given on the enclosure.

Sincerely,

Theo G. Keith Jr.

Dr. Theo G. Keith, Jr.
Director for Resident Programs

Enclosure

cc: 4320/Jeffrey A. Chambers
9200/Jo Ann Charleston
OAI/Official File
9200/Official File

Internship Assignment

Intern: Elizabeth Karla
Org. Code: 4320
Branch: Structural Analysis Branch
Division: 4300/Structural Systems Division
Mentor: Jeff Chambers
Phone: (216)433-8612

Activities/Responsibilities:

Provide structural analysis support for the Droplet Combustion Experiment (DCE). This will include calculations to aid the on-going design and to meet the requirements of the Safety-Critical Structures Data Package. Calculations may be for flight fasteners, support bracketry, hardware, and/or ground support equipment. Calculations will include stresses, deflections, and loads.

Generate and analyze various DCE components under flight, assembly, and/or ground handling loads. Will generate finite element model(s) from CADAM geometry using PDA/Patran P3 and analyze using either MSC/NASTRAN or MARC finite element codes. May also be required to perform small amounts of computer programming using FORTRAN. Modeling and programming work will be conducted using Silicon Graphics workstations.

NASA/OAI
Collaborative Aerospace Internship and
Fellowship Program

April 29, 1994

Gnanulan Canagaratna
501 W. North Avenue
Ada, Ohio 45810

Dear Gnanulan:

This confirms your acceptance of a summer internship at the NASA Lewis Research Center in the NASA/OAI Collaborative Aerospace Internship and Fellowship Program. You are scheduled to begin on Tuesday, May 31, 1994 for a period of 14 weeks. Please contact us immediately if your start or end dates change.

The main entrance to the Lewis Research Center is on the south side of Brookpark Road at the western end of Cleveland Hopkins International Airport. It can be reached from the Grayton Road exit of Interstate 480. Two maps are enclosed to assist you.

Plan to arrive at 8:00 a.m. on your starting date. Stop briefly at the main gate by the guardhouse for directions to the Administration Building and the Hangar Parking Lot which is located just across Taylor Road. For identification and admission to the Center, you must bring this letter with you.

The receptionist at the entrance of the building will direct you to the room where we will issue you a badge and conduct an orientation meeting. The meeting will begin at 8:30 a.m.

All students will be regarded as young professionals for which business dress is always appropriate. Shorts are strictly prohibited at your worksite. In addition to performing your internship assignment, you can expect to participate in professional and social activities. These activities will be briefly described at the orientation.

Please contact your mentor prior to your arrival so you can begin to prepare for your internship at Lewis. We look forward to your arrival.

If you wish additional information, please do not hesitate to contact me at (216) 962-3030, Sylvia Thompson at (216) 962-3032 or Rita Clement at (216) 433-5104.

Sincerely,

A handwritten signature in cursive script that reads "Theo G. Keith, Jr.".

Dr. Theo G. Keith, Jr.
Director for Resident Programs

4 Enclosures

cc: 9200/Jo Ann Charleston
5330/Michael Patterson
OAI/Official File
9200/Official File